

What is claimed is:

1. A computer-readable medium having computer-executable instructions for performing steps for a correspondent host to  
5 provide mobility support for communications with a mobile host, the steps comprising:

receiving, by a mobility service of the correspondent host, a request from a first application on the correspondent host to set up a communication connection with a second  
10 application on the mobile host, the mobility service being implemented in an application programming interface (API) layer of an operating system of the correspondent host;

calling, by the mobility service, a session establishment service of the correspondent host implementing a session  
15 establishment protocol to establish a session with the mobile host;

establishing, by the session establishment service, a session with the mobile host;

setting up, by the mobility service, a communication  
20 connection under a transport protocol for communications between the first and second applications;

obtaining, by the session establishment service, a notice through operation of the session establishment protocol that the mobile host has moved to a new address;

25 reestablishing, by the session establishment service, a session with the mobile host for the new address of the mobile host; and

resetting, by the mobility service, a communication connection for the new address of the mobile host.

2. A computer-readable medium as in claim 1, comprising  
5 further computer-executable instructions for the correspondent host to performs the steps of:

retrieving buffered communication data for the communication connection between the first and second applications prior to resetting the communication connection;  
10 and

sending the retrieved buffered communication data over the reset communication channel for the new address of the mobile host.

15 3. A computer-readable medium as in claim 1, comprising further computer-executable instructions for the correspondent host to performs the step of tunneling communication data to the mobile host using the new address of the mobile host before completing the step of resetting.

20 4. A computer-readable medium as in claim 1, wherein the session establishment protocol is the Session Initiation Protocol.

25 5. A computer-readable medium as in claim 1, wherein the transport protocol is the TCP.

6. A computer-readable medium as in claim 5, wherein the transport protocol is the UDP.

7. A computer-readable medium as in claim 1, wherein the first application identifies the second application by a name in the request to form a communication connection.

8. A computer-readable medium having computer-executable instructions for performing steps for a correspondent host to provide mobility support for communications between a first application on the correspondent host with a second application on a mobile host over an existing session and an existing communication connection, the steps comprising:

receiving, by a session establishment service of the correspondent host implementing a session establishment protocol, a notice through operation of the session establishment protocol that the mobile host has moved to a new address;

reestablishing, by the session establishment service, a session with the mobile host for the new address of the mobile host; and

resetting, by a mobility service, a communication connection for the new address of the mobile host for communications between the first and second applications, the mobility service being implemented in an application programming interface (API) layer of an operating system of the correspondent host.

9. A computer-readable medium as in claim 8, comprising further computer-executable instructions for the correspondent host to performs the steps of:

5        retrieving buffered communication data for the communication connection between the first and second applications prior to resetting the communication connection; and

         sending the retrieved buffered communication data over  
10       the reset communication channel for the new address of the mobile host.

15       10. A computer-readable medium as in claim 8, comprising further computer-executable instructions for the correspondent host to performs the step of tunneling communication data to the mobile host using the new address of the mobile host after receiving the notice of the new address of the mobile host and before completing the step of resetting.

20       11. A computer-readable medium as in claim 8, wherein the session establishment protocol is the Session Initiation Protocol.

25       12. A computer-readable medium as in claim 8, wherein the transport protocol is the TCP.

13. A computer-readable medium as in claim 8, wherein the transport protocol is the UDP.

14. A method for a correspondent host to provide .  
5 mobility support for communications with a mobile host, comprising the steps of:

receiving, by a mobility service of the correspondent host, a request from a first application on the correspondent host to set up a communication connection with a second  
10 application on the mobile host, the mobility service being implemented in an application programming interface (API) layer of an operating system of the correspondent host;

calling, by the mobility service, a session establishment service of the correspondent host implementing a session  
15 establishment protocol to establish a session with the mobile host;

establishing, by the session establishment service, a session with the mobile host;

setting up, by the mobility service, a communication  
20 connection under a transport protocol for communications between the first and second applications;

obtaining, by the session establishment service, a notice through operation of the session establishment protocol that the mobile host has moved to a new address;

25 reestablishing, by the session establishment service, a session with the mobile host for the new address of the mobile host; and

resetting, by the mobility service, a communication connection for the new address of the mobile host.

15. A method as in claim 14, comprising further the  
5 steps of:

retrieving buffered communication data for the communication connection between the first and second applications prior to resetting the communication connection; and

10 sending the retrieved buffered communication data over the reset communication channel for the new address of the mobile host.

16. A method as in claim 14, comprising further the step  
15 of tunneling communication data to the mobile host using the new address of the mobile host before completing the step of resetting.

17. A method as in claim 14, wherein the session  
20 establishment protocol is the Session Initiation Protocol.

18. A computer-readable medium as in claim 14, wherein the transport protocol is the TCP.

25 19. A method as in claim 14, wherein the transport protocol is the UDP.

20. A method as in claim 14, wherein the first application identifies the second application by a name in the request to form a communication connection.